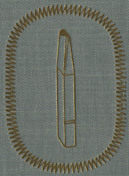
MAKING PRINTERS' TYPEFACES

a b c d e f g i j k l m n o p q r s t u

MAKING PRINTERS' TYPEFACES • MIDDLETON •

v w x y z & 1 2 3 4 5 6 7 8 9 0

MAKING PRINTERS' TYPEFACES ★ MIDDLETON



MAKING PRINTERS' TYPEFACES

MAKING

PRINTERS' TYPEFACES

by

R. HUNTER MIDDLETON

Director of Department of Typeface Design, Ludlow Typograph Company

THE BLACK CAT PRESS · CHICAGO · ILLINOIS

1938

To ERNST F. DETTERER

whose knowledge and appreciation of noble letter forms, imparted to me as his pupil, has been the background of my career, and whose insistence upon perfection stimulates me anew whenever I am tempted to be content with less.

MAKING

PRINTERS' TYPEFACES

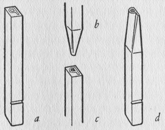
DESIGN, PUNCH, MATRIX, TYPE. These steps constituted the essentials of letter founding when the invention of movable types became an established reality almost five hundred years ago. Excepting design, the procedure prevailing today in the making of contemporary typefaces is fundamentally the same, varying only in the substitution of mechanical devices for tradition's manual craftsmanship. Design is still a manual art and will remain thus so long as our alphabet retains its present conventional forms. Some one may point to the work of Paul Koch in Offenbach, or that of his illustrious father, Rudolph Koch, also to the few remaining punch cutters employed by German foundries, to prove that punches are still being engraved by hand in the traditional manner. Craftsmen of traditional training do exist in Europe, but, because of the economic demands of a competitive mar-

ket and the fact that fine design, once obtained, need not be lost by mechanical reproduction, the noble art of cutting punches by hand is no longer essential to the advancement of typeface design.

To most people and many of those occupied in the typographic arts, there is considerable mystery about the genesis and twentieth century production of printing typefaces. It is a strange fact that color printing, in the subconscious reasoning of people in general, signifies the use of an entirely separate physical unit other than the type that prints black. Similarly, people who should know better are apt to take typeface styles for granted or to consider them as the fruit of typographical seed planted in season.

Let us examine the mystery of letter founding. For convenience, the date of the invention of movable types may be placed at about 1450. (Happily we are not concerned with the controversy as to who was the inventor. You are at liberty to take your choice of the contenders: Johann Gutenberg of Strasbourg and Mainz, is the popular contender whose claims are backed up by the most documentary evidence. Laurens Coster, the Dutch claimant, is next in line, whose supporters say that his secret was stolen from him. Some historians believe that the real genius was some unknown printer-inventor contemporary with the two fore-going historical names. You may even settle

the whole question by conceding the inventive laurels to China where printing—and probably printing from movable types—was practiced long before it became an epoch-making event in medieval Europe.) The invention of movable types may be thought of as a method of giving alphabetical letter forms physi-



STEPS IN CUTTING THE TRADITIONAL PUNCH

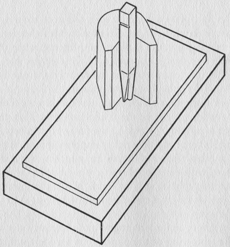
cal entities adapted to assembling with their mates to form words and lines suitable for printing. The practicability of the invention depended upon the efficiency of multiplying these alphabetical units in the exact form needed and in sufficient quantities to meet the printer's demand. The necessity for precision and quantity production dictated the use of materials and methods employed in early letter founding, most of which were already in use and practiced by other

crafts of the fifteenth century. Furthermore, since letter forms were the product of manuscript writing or the calligrapher's art, letter founding immediately became dependent upon artistic effort for its meaning and spirit. The typefaces designed throughout the centuries and in our present day combine both the letter designer's art with the technical skill of the craftsman and engineer.

Forgetting design for the moment, the first step in early letter founding was the punch. Illustration (d) shows a hand-cut punch done in the sculptured craftsmanship manner of the traditional punch cutters. As an exhibit of craftsmanship and beauty in itself, the hand-cut punch easily surpasses the modern machine-cut product. However, since the face of the punch is the essential functional part, hand work has been forced to give way to a machine method capable of producing this essential part with ease and accuracy and at a greatly increased production ratio. The procedure in cutting the traditional punch included the following steps: (1) Preparing the steel blank, (2) scribing guide lines on the face of the blank and drawing the letter character within the limits of these lines, (3) preparing a counter punch based upon the drawn letter, (4) tempering the counter punch and driving it into the face of the punch blank in the proper location, and (5) completing the letter with

files and gravers by removing the steel around the character with long angle strokes until the desired letter was produced. Final adjustments were made with fine files and gravers. If the face became too light, its general weight was easily increased by facing the punch on an oil stone in the facing block. (see illustration e). A final visual check was obtained by making a smoke proof of the punch. This proof was produced by smoking the face of the punch in a candle flame and then deftly impressing it on slightly dampened paper. Succeeding punches were compared with standard characters, usually "H" and "O" for the capitals, and "m" and "o" for the lowercase until the font was completed. Illustrations (a) to (d), inclusive, explain the procedure graphically. The last operation, an important and most necessary one, was the tempering of the punch to a hardness sufficient for matrix striking.

The matrix (or die) in early letter founding consisted of a bar of metal, usually copper or bronze, of a size and shape adapted to the hand casting mold. The bar became a matrix only after the punch was struck into it. This operation was accomplished by the use of a heavy hammer wielded with earnestness because the driving was done in cold metal. The use of adjustable holders for both punch and matrix enabled the founder to make the strike at approximately the correct



e. FACING BLOCK WITH PUNCH ON OIL STONE

location on the matrix bar. Gages were used to control and establish the proper depth of strike. Exact matrix dimensions in relation to the face, so essential for exact alignment, set, and height to paper in the finished type, were established after the strike was made in the matrix blank.

With the completion of the matrix and the use of an ingenious hand casting mold (see illustration f),

the early letter founder was ready to cast type at the rate of some three thousand to the day's work of a journeyman caster. Today the printer-founder may cast sort types for his cases and in a single hour the modern type caster will accomplish what would have required the hand caster three days.

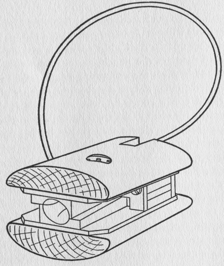
In America, printers' typefaces issue from a limited number of sources. The remaining sources of single types are the American Type Founders Company, the Village Letter Foundry, and the agencies importing European types. Matrices from which typefaces may be cast are supplied by Mergenthaler Linotype Company, Ludlow Typograph Company, Intertype Corporation and the Lanston Monotype Machine Company.

Turning now to the making of contemporary typefaces, we note that the change from the traditional procedure is largely one of mechanization. The significant letter founding mechanisms in use today are the punch—or matrix-engraving machine, the typecasting machine, and the type-setting machines which function as both composing and casting tools. In searching for a modern innovation over the traditional procedure, the *slug line* adapted by most of the typesetting machines is probably the only one that can be considered as a fundamental change. This conclusion does not detract in any way from the in-

ventive and engineering genius responsible for the present mechanized letter founding processes. It does mean, however, that mechanics may be the servant of an idea, but never the idea itself. The principle of the slug line resulted from Ottmar Mergenthaler's reasoning that matrices might be assembled and justified for casting in accordance with the principle of a composing machine for impressing papier machè matrices with which he struggled during the period 1878-84. With this new idea at work in the inventive mind of Mergenthaler, he abandoned all previous approaches to mechanical composing of type by the impression method. Thus the Linotype machine, destined to revolutionize the task of setting type, was conceived.

Broadly speaking,contemporary typefaces are available in two forms: single types cast at the type foundry, and matrices struck at the factory of a composing machine company. The printer who buys his typefaces in the form of matrices becomes partly a letter founder himself. He may cast single types in composition, from the Monotype machine, or he may cast slug line composition on the Linotype, Ludlow or Intertype machines.

The type founders' master die is the matrix. In its recess may be cast its alphabetical identity forever after and in any quantity desired. Although the first



f. HAND CASTING MOULD
Drawn from an old mould in the Wing room, Newberry Library, Chicago

engraving machine invented in connection with letter founding was designed for cutting punches, the machine was soon found adaptable to matrix cutting. With this machine the type founders were able to relieve themselves from punch cutting entirely if they so desired. So far as the writer is aware, all matrices

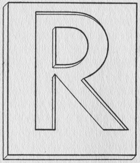
produced by the American Type Founders Company are made without the use of punches. In Europe there is a compromise method in vogue for making matrices related to the punch cutting technique. This method involves the sculpturing of the letter in soft material similar to type metal in the manner of traditional punch cutters. A wax impression is made from the finished character followed by an electroplate shell. The electro shell is then backed up and inserted in a matrix blank, justified in the regular manner, and the matrix is complete. This method requires, first of all, skilled craftsmen, trained similarly to the traditional punch cutters. It may be justifiable if but one size of a typeface is required, or if deliberate variation in design is desired from one size to the other. In America, it is doubtful that even one such craftsman exists, hence the method would be physically impossible as well as impracticable economically, in this country.

As to the typesetting machine companies' letter founding procedure, strangely enough we find that these exponents of advanced methods must needs retain all the steps of traditional founding. When the matrix is the end product, the "punch" becomes the master item. Just as the type founders found it necessary to develop casting machines to turn out their types rapidly, composing machine companies were

required to develop presses for stamping matrices with the regularity and precision complimentary to type foundry casting. The punch's job is much heavier than that of the matrix, and although it is given more resistance by virtue of its material and processing, breakages are frequent. Here the punch cutting machine stands by, ready to replace the broken punch in exact duplication.

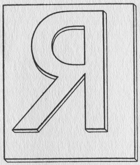
In typeface design, as in all design, every bit of spirit, every decision as to style, proportions and the minute relationships of the entire font of characters must be given graphic form on drawing paper. Later these drawings must take the shape of patterns before the engraving machine becomes a factor of any usefulness. After the designer and his associates, technical and otherwise, make up their minds just what the engraving machine is to do, then, and then only, does mechanics perform its role. The product of the engraving machine is accomplished through the medium of patterns, which, in reality, are part of the engraving machine invention.

Patterns have two distinct forms: an intaglio form (illustration g) used for engraving matrices, and a relief form (illustration h) for engraving punches. If the designer is not a contributor to the pattern making operation, ways must be devised so that workmen skilled similarly to the mechanical draftsmen may



g. MATRIX PATTERN, INTAGLIO & READING POSITION

successfully reproduce the designer's forms. Under these conditions, the usual method is to enlarge the designer's drawings to eight or ten inches for the height of the capitals and transfer to drawing paper in outline, carefully checking all dimensions. Such an outline drawing, used in combination with a pattern engraving machine, can be used for engraving metal patterns of either matrix or punch form, depending upon whether the enlargement is used in reverse or reading position. The workman is able to hold the pattern engraving machine tracer to the line of the drawing by the means of such draftsman's aids as the triangle, straight edge or french curve.



h. PUNCH PATTERN, RELIEF & REVERSE POSITION

Another method requiring more skill and, if possible, the hand of a designer, is to mount the enlargements on a secondary sheet of cardboard, cut with a stencil cutting knife and strip out the letters. This method allows more freedom for the reproduction of designs not mechanically drawn in the beginning. Such a method is used by Frederic W. Goudy at his Village Letter Foundry.

When the designer works close to pattern making, he may paint his letters on photo engravers' zinc with etching ink, etch out the background and tool the characters to the exact dimensions. Such a master pattern need not be more than three inches in height

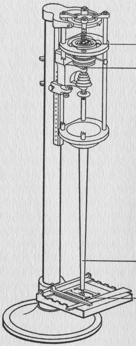
for the capitals since it is possible to use this pattern for the engraving of large size punches. Such a method of pattern making has been developed by the Ludlow Typograph Company.

Another method used specifically for matrix engraving was developed by the late Robert Wiebking, Chicago's unique letter founder. Mr. Wiebking's method was to engrave his pattern letters in outline on zinc plates. Within the limits of these incised outlines a pointed tracer was used, moving back and forth across the face of the letter as the cutter point engraved the matrix. A finishing cut was made by having a tracer point follow around the engraved outlines of the pattern.

The punch engraving machine, without doubt, was a mechanism which contributed materially to the ultimate success of the mechanical typesetting inventions. The quantity of punches needed by the typesetting machine companies could never have been supplied by the hand punch cutter. The Benton punch engraving machine, patented by Linn Boyd Benton in 1885, is considered the first important American invention of this nature. This machine, in modified form as compared with the patent drawings, is still being used by foundries and most of the typesetting machine companies for the engraving of their matrices and punches.

It is not generally known, but a fact, that Robert Wiebking developed an engraving machine of his own design, the model of which was brought to America by his father in 1881. This machine was protected behind the walls of his shop rather than by patents. By negotiation, the Ludlow Typograph Company became the possessor of one of Mr. Wiebking's engraving machines. This machine, together with a brief tutelage on punch engraving by Mr. Wiebking, started the Ludlow company on its independent punch engraving program.

The basic principle of the engraving machine is a pantograph device which functions as the mechanism for reducing a large shape to a smaller one of identical proportions, the exact size of the smaller one being controlled by the setting of the pantograph device. The pantograph usually consists of a series of arms pivoted together in strict relation, at one station having a tracer point and at the other, a recording point. A pantograph for such accurate work as a punch or matrix cutting must be constructed with precision, but its action and results are as simple as the child's drawing toy with which he enlarges or reduces a Mother Goose picture. As the child shakily follows the outline of his drawing with the tracer while the pencil records a wavering reproduction, in like manner, but with meticulous care,



THE BENTON ENGRAVING MACHINE OF 1885

the tracer of the engraving machine pantograph is moved around the contour of the pattern as a revolving cutter cuts a precise and accurate reproduction of the pattern form. When using the matrix pattern the tracer follows the intaglio line and cuts away the inner part, thus engraving the matrix in reading position as it was formerly struck by the punch. In cutting the punch, the tracer follows around outside the pattern character, leaving the punch character in relief in reversed position.

Thus having found a way to produce matrices or punches in true reproduction of the designer's letters and in sufficient quantity to meet the increasing demand, type founders and typesetting machine companies have kept step with the requirements of letter founding, to the profit of the entire printing industry.

Since the producer of typefaces is required to provide sizes from 6 to 72 point and larger, (the printer's point measures .0138 ins.) the problem of relationships between sizes demands painstaking care. The simplest of these relationships is the determining of intervals between sizes already well established by practical requirements of composition.

These intervals may be but one point apart from 6 to 12 point, increasing as the sizes become larger. Probably the greatest number of sizes which might be made in any one series of a contemporary type-

face is as follows: 6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 22, 24, 30, 36, 42, 48, 60, 72, 84, 90, 120, and 144 point. Normally, sizes 7, 9, 11, 16, and 22 point are not engraved in foundry type.

Punches have been cut by hand as small as 3 point, and it is possible for the modern engraving to go microscopic in size. For practical reading, however, any size under 6 point is of little value, and sizes over 144 point, might better be cut from wood, linoleum, or rubber plates.

A second relationship is one of "color" gradation. The word color in the typefounder's terminology is used to denote degree of blackness in the printed effect, and has nothing to do with pigment. The desired color relationship between sizes in a typeface series is one in which all sizes from the smallest to the largest, visually, seem to have the same degree of blackness.

Strictly mechanical reproduction will result in the small sizes appearing too light in color relation, and the large sizes appearing too heavy. With this mechanical limitation known, it is possible to intervene at various stations in the size range and re-direct the engraving machine's course. The necessary variations from a strict mechanical procedure are accomplished by the use of additional patterns in which the color of the characters has been altered to obtain the

desired visual color gradation of the series. An additional opportunity for color adjustments is possible by doing some thinking for the engraving machine. The finishing cut on a machine engraved punch, as will be observed in illustration (i), is angular and corresponds with the angle of the cutter point. Since

i. MACHINE ENGRAVED PUNCH

this angle is not a right angle, by raising or lowering the cutter point, a resultant dimension across the face of any stroke can be made greater or smaller respectively. A similar adjustment can be made in the matrix engraving machine by varying the width of the cutter point larger or smaller, according to the change in color desired. Thus a true proportion, as to height of the punch or matrix, can be maintained in combination with an adjusted proportion in color dimension of the character.

A third relationship has to do with height and widths of counter spaces. Such considerations do not become critical in sizes above 12 point. Occasionally it may be desirable to condense the widths of sizes larger than 48 pt. but the need of this adjustment is not mandatory. In sizes 6, 8, 10, and 12 point, also the intermediate ones, when engraved, it is imperative that varying proportions be established for counter widths and in the lowercase letters such as "m," "o," etc., also corresponding parts of letters such as "b," "q," etc., heights must be changed. The necessity for these adjustments is obvious. As letters decrease in size they approach a vanishing point, secondly in order to retain their established degree of color, their strokes must be proportionately increased as they become smaller. These two factors work in opposition to each other; compromise is the way out. Capitals may be made proportionately wider, thus maintaining a recognizable counter space which holds the key to the letter's identity. Lowercase may be widened similarly and, as previously stated the height of lowercase letters having a section corresponding with the height of the "m" and "o" may be increased. If these adjustments are graded properly, the eye will not distinguish the transition from one set of proportions to the other, in fact the eye welcomes the adjustment. In this way the reading process involving small

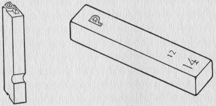
sizes of a typeface is rescued from the disaster which would accompany a strictly mechanical reduction.

Still a fourth relationship may be called one of vertical proportions. The body, or point size of a typeface, is divided into three vertical spaces. The central space is occupied by the lowercase "m" and similar letters. The upper space and middle space together, is occupied by the capitals and such ascending lowercase letters as "h." The bottom and middle space together is occupied by such descending lowercase letters as"g." All three spaces as a unit are occupied by the capital "Q." Traditional masters established ideal numerical values for each of these relationships, but the necessity for added interest and in many cases, utility has been responsible for many variations of the perfect relationship.

A generous ascending and descending space is typical of the classical book typefaces. Beginning at the top, the standard space relationships for well made types were 2-3-2. A large middle space emphasizes utility and gives maximum legibility to the lowercase of a normal design. An extremely small middle space with large top and lower space is responsible for the lavishness of most script or cursive typefaces.

A few other relationships which are not specific design characteristics are: the contrast in weight of serifs as related to main strokes, the relation between

thick and thin strokes. (Because of long usage and optic laws, this last relationship must even be considered to a degree in monotone typefaces such as the



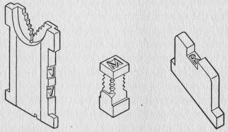
CAST TYPE AND FOUNDRY ENGRAVED MATRIX

sans-serif families. A sans-serif capital M must retain a slight amount of the thick and thin relationship of strokes found to a marked degree in a Bodoni capital M; a capital O must be slightly thinner at the top than at the bottom, because horizontal lines of the same dimension as vertical ones appear heavier; a lowercase m must not have a joining stroke of the same weight as the vertical ones, since an undesired area of blackness will be created and the letter will spot). Numerous other compromises must be made since the end product, to which printers' typefaces must contribute, is not theoretical but one resulting from the combination of cast type or slugs, printers' ink and paper.

Frederic W. Goudy, the dean of American type designers, has often expressed his doubt as to whether the drawing of letters could be called a fine art, or an art in any sense. Whatever the truth may be as to the classification of letter design among those who work with their hands, the use of typefaces in the producing of typographic design is certainly a creative art, if not a fine art.

It is no exaggeration to say that the best typographic designers of today might easily have been the best architects, sculptors, or easel painters. Eric Gill, English master sculptor, stepped into typographic design by way of wood engraving. He has designed many excellent typefaces for the English Monotype Company, and at present designs and prints books at his own private press, with type specially designed for the press. Frank Lloyd Wright, one of the most creative among living American architects, finds a new design challenge in the typography of his published works. He seeks the same structural solution for a typographic problem as he would one on building. L. Moholy-Nagy, formerly professor of the Bauhaus in Dessau, Germany, and now Director of the New Bauhaus, American School of Design in Chicago, is equally as enthusiastic about creating a successful typographical arrangement as he is about the numerous opportunities for experimentation and

invention in the field of industrial design. Lucian Bernhard designs furniture, interiors, posters, trade marks, typefaces and typographical arrangements with equal skill, power and artistic good taste. Among the younger painters of reputation, Dale Nichols claims the same quality of fine art for his



MATRICES: LINOTYPE, MONOTYPE AND LUDLOW

typographical design and illustration that he puts into a painting for the galleries of Chicago's Art Institute. It appears then that the assembling of typographic elements and related graphic design has sufficient challenge to interest the mighty.

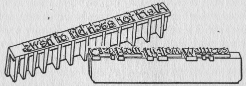
Although book printing is still the essential use for typefaces, present day variety in types would never have reached such proportions had this use alone dictated the course of typeface design.

The array of typefaces available today has been made to play the role of advertising, the contemporary method of selling the world's goods. By means of typography, the advertiser tells what cannot safely be expressed through illustration. Being denied illustration, the advertiser may rely on typography alone for the whole graphic selling process.

Graphic advertising expresses all moods. Its message may whisper, shout, or just talk. There is an occasion for delicacy, and a time for brusk stop and go. Tradition must be remembered, modernity must be served. For all these moods, makers of printers' typefaces seek new spokesmen—new typefaces. Likewise the advertising message must assume a variety of shapes and adapt itself or compete with environments not always sympathetic. The thumb-nail space must speak its piece with relative emphasis, in comparison with the full page advertisement or the desk size broadside. For these requirements typefaces must be made.

In attempting to supply the printers' typeface market, makers of typefaces are not likely to think of their problem specifically in terms of descriptive moods, such as: grace, masculinity, antiquity, chic, and the like. The alphabetical conventions, the writing and drawing tools still influence the actual design of typeface or at least are responsible for fur-

nishing the basic theme. Added to this, and of inestimable importance, is timeliness or conformity to prevailing good taste. The type for expressing a particular mood can never be labeled as such, but from the variety of typefaces designed in accordance with their own rules and artistic feeling a specific typeface may be found to fit the purpose. Better still a specific typeface may be selected and so used by the



SLUGS: LINOTYPE OR INTERTYPE AND LUDLOW

typographical designer that it will fit the desired mood and more perfectly interpret it.

In retrospect, it is amazing to find how many varieties our basic alphabet has taken on. This scene is a continuous one and new variations await the explorer's claim.

One of the most recent discoveries was ushered in with the sans-serif vogue. It was found that the two traditional weight combinations, light and bold might be expanded to light, medium, bold and heavy.

This discovery alone has made possible a marked increase in the effectiveness of straight typography, during the past ten years. It should be noted that condensed typefaces have won considerable recognition for their possibilities in contributing to distinctive typography. Whereas these faces have functioned as space saving devices only, designers have discovered that this penny-pinching effect might be changed to one of lavishness by the simple method of introducing wide letter spacing. Condensed capitals are best suited to this letterspacing treatment, although contrary to past beliefs on the subject, lowercase may be successfully letterspaced for display purposes.

To record the most important of these basic variations, we might list the following: capitals, lowercase, roman, italic, script or cursive, black letter or old English, light, medium bold and heavy weights, serifed, sans-serifed, thick and thin, monotone condensed, high lowercase, low lowercase, decorative or swash capitals, small capitals, outline, inline third dimensional, oblique, others forgotten, others to come.

It is not very wise to prophesy what the future holds for typeface design. Some authorities look forward to the evolution of a new alphabet that will express the English language phonetically in much the same manner as shorthand character. As much as 30 per cent saving in space, also time for the

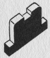
compositor and reader, is claimed for such an alphabet. Others recommend the simplification of our present dual character alphabet into a single one combining capitals and lowercase. This would result in an alphabet corresponding in idea with that period in the development of our roman lowercase known as the uncial hand, found in the manuscripts written from the fourth to the eighth century. When we finally recognize the inertia of people and the unfavorable economic factors involved in such a change, the possibilities are that we shall plod along with our present alphabets and look to our inventive abilities for additional variety in the typefaces that are and will be required by contemporary life.

A SHOWING OF

TYPEFACE ALPHABETS

DESIGNED BY THE AUTHOR

FOR LUDLOW MATRICES



A B C D

E F G H I J K L M

N O P Q R S T U

V W X Y Z

. : & ; ,

$1234567890

. - ' ! ? ' —

DELPHIAN OPEN

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

+ . : - ' (! ?] ' — ; ,

STELLAR

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$1234567890

a b c d e f g h i j k l m

n o p q r s t u v w x y z

+ . : - ‘ (! ?] ’ — ; ,

TEMPO MEDIUM

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$1234567890

a b c d e f g h i j k l m

n o p q r s t u v w x y z

+ . : - ‘ (! ?] ’ — ; ,

TEMPO HEAVY

A B C D

E F G H I J K L M

N O P Q R S T U

V W X Y Z

. : & ; ,

$1234567890

- ' ! ? ' —

TEMPO HEAVY INLINE

A B C D

E F G H I J K L M

N O P Q R S T U V

W X Y Z + A B C D

E F G H I J K L M

N O P Q R S T U V

W X Y Z

TEMPO LIGHT AND MEDIUM CURSIVE CAPITALS

ABCDEFGH

IJKLMNOPQR

STUVWXYZ&

$1234567890

abcdefghijklm

nopqrstuvwxyz

+.:-'(!?]'—;,

KARNAK INTERMEDIATE

ABCDEFGH

IJKLMNOPQR

STUVWXYZ&

$1234567890

abcdefghijklm

nopqrstuvwxyz

+.:-'(!?]'—;,

KARNAK HEAVY

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

ff fi fl - . : ' ! ?) ' ; , — ffi ffl

GARAMOND

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

✦ . : - ' (! ?] ' — ; ,

BODONI BLACK

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

ff fi fl - . : ' [! ?) ' ; , — ffi ffl

EUSEBIUS ITALIC

A B C D

E F G H I J K L M

N O P Q R S T U

V W X Y Z

. : & ; ,

$1234567890

- ' ! ? ' —

UMBRA

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

' . : - (! ?] — , ; '

EDEN LIGHT

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

' . : - (! ?] — , ; '

EDEN BOLD

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

of on or . . : - ' ! ? ' ; , — 's 't '

MANDATE

A B C D E F G H

I J K L M N O P Q R

S T U V W X Y Z &

$ 1 2 3 4 5 6 7 8 9 0

a b c d e f g h i j k l m

n o p q r s t u v w x y z

' . : - ! ? — ; , '

CORONET

PRINTER'S NOTE

This volume, the first in a series of books about the Graphic Arts was designed by the author, R. Hunter Middleton and Norman W. Forgue. The typefaces are Linotype Granjon and Ludlow Garamond. Printed on Strathmore Highway Book paper by the Black Cat Press, Chicago. Completed during the month of April, 1938.